

## ABSTRACT

Methods and apparatus that improve interference (I) estimation in CDMA systems in which the DPCH is sorted under a scrambling code different from the scrambling code of a channel such as the CPICH are described. In such systems, DPCH I-estimation cannot be done 5 by measuring on the CPICH and transforming to the DPCH due to the different interference situations on the two channels. Instead, the DPCH interference is estimated by using knowledge of empty channelization codes in the alternative or secondary scrambling code that can be used for I estimation, or using symbols (e.g., control symbols on the DPCCH) on the DPCH, or searching for an empty channelization code and using a found empty code for I-estimation.

10 These techniques improve the SIR estimate in comparison to prior techniques and hence also improve the performance of power control, increasing the system's capacity.